

REMARKS

Claims 11-14 have been amended to correct minor informalities without narrowing the claims. Claims 1-10 and 15 are presented without amendment for reconsideration in the light of the following remarks.

Following final rejection, a response to it overcoming all the grounds of the final rejection and the filing of a Notice of Appeal, the Examiner conducted a new search identifying seven patents and asserting new grounds of rejection based on three of them dated more than seven years before the filing date of this application. The courtesy of the Examiner in conducting an additional diligent search is acknowledged with appreciation.

4. Claims 1 and 4-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Imazeki. Regarding claim 1, FIG. 2 is said to illustrate a scanning receiver embodiment comprising a variable tuning means in the form of an antenna 12, RF amplifier 14, mixer and filter circuitry 15, a local oscillator 17, and IF amplifier 18 for selectively and sequentially tuning the receiver to predetermined frequencies within a range of frequencies and producing a corresponding IF frequency. The scanning receiver is said to further show frequency discriminator means provided in the form of an FM audio detector 20 which is said to be coupled to the IF amplifier 18 and tuned to a predetermined frequency such as 10.7 Mhz. The scanning receiver is said to also provide scanner circuitry 40 between the switching circuit 23, which is said to be responsive to the gating signal developed by center frequency detector 30 and local oscillator 7 for causing the variable tuning means to automatically and sequentially tune the receiver to each of desired frequencies and stop when it has tuned to the center frequency of a received frequency. The center frequency detector 30 is said to be coupled to the audio detector 20 and is said to be responsive to the DC signal component developed by audio detector 20 for developing a gating signal. FIG. 3 is said to show the center frequency detector 30 in greater detail wherein the center frequency detector 30 includes a pair of voltage comparators 31 and 32. By selecting the upper and lower threshold values to be very close to each other; hence, that is said to correspond to the center frequency of the desired received signal. The antenna 12 is said

to receive a radio-frequency signal within a predetermined range of reception frequencies (e.g. FM reception). The center frequency detector 30 is said to perform the step of comparing frequency of the received signal to a predetermined frequency threshold. Finally, it is said the scanner circuitry 40 is said to tune the frequency of the local oscillator 17 very close to the frequency threshold when the received frequency is below or above the threshold frequency.

Regarding claim 4, the step of tuning to the frequency threshold is said to inherently perform adding or subtracting an offset value when the received frequency is less than or more than the threshold frequency.

Regarding claim 5, selecting the same magnitude for both frequency offsets is said to be inherently a design choice (e.g. same increment/decrement intervals).

Regarding claim 6, in one example, the reference is said to disclose predetermined IF frequency as 10.7 MHz for FM frequency range. It is said to be notoriously known that FM frequency bandwidth is 20 MHz (from 88 MHz to 108 MHz), evidently, 10.7 MHz is approximately the center frequency of FM range. Hence, it is said any frequency offset below or above 10.7 MHz must be less than or equal to the center frequency.

Regarding claim 7, when the received frequency is at either end of the frequency range, both offset values are said to be equal to center IF frequency when the receiver is tuned to the center of the reception frequency range.

Regarding claim 8, it is said the reference discloses that the predetermined IF frequency is 10.7 MHz for FM frequency range, which is said to be the midpoint frequency of FM frequency range.

Regarding claim 9, it is said the reference gave two examples wherein the predetermined frequencies are 10.7 MHz for FM receiver and 455 KHz that falls into AM frequency range. Hence, it is said the reference receiver could be easily configured to receive signals in the range 2400 Kz to 2485 Kz.

These grounds of rejection are respectfully traversed.

"It is well settled that anticipation under 35 U.S.C. 102 requires the presence in a single reference of all of the elements of a claimed invention." *Ex parte Chopra*, 229 U.S.P.Q. 230, 231 (BPA&I 1985) and cases cited.

"Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim." *Connell v. Sears, Roebuck & Co.*, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983).

"This court has repeatedly stated that the defense of lack of novelty (i.e., 'anticipation') can only be established by a single prior art reference which discloses each and every element of the claimed invention." *Structural Rubber Prod. Co. v. Park Rubber Co.*, 223 U.S.P.Q. 1264, 1270 (Fed. Cir. 1984), citing five prior Federal Circuit decisions since 1983 including *Connell*.

In a later analogous case the Court of Appeals for the Federal Circuit again applied this rule in reversing a denial of a motion for judgment n.o.v. after a jury finding that claims were anticipated. *Jamesbury Corp. v. Litton Industrial Prod., Inc.*, 225 U.S.P.Q. 253 (Fed. Cir. 1985).

After quoting from *Connell*, "Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim," 225 U.S.P.Q. at 256, the court observed that the patentee accomplished a constant tight contact in a ball valve by a lip on the seal or ring which interferes with the placement of the ball. The lip protruded into the area where the ball will be placed and was thus deflected after the ball was assembled into the valve. Because of this constant pressure, the patented valve was described as providing a particularly good seal when regulating a low pressure stream. The court quoted with approval from a 1967 Court of Claims decision adopting the opinion of then Commissioner and later Judge Donald E. Lane:

[T]he term "engaging the ball" recited in claims 7 and 8 means that the lip contacts the ball with sufficient force to provide a fluid tight seal. *** The Saunders flange or lip only sealingly engages the ball 1 on the upstream side when the fluid pressure forces the lip against the ball and never sealingly engages the ball on the downstream side because there is no fluid pressure there to force the lip against the ball. The Saunders sealing ring provides a compression type of seal which depends upon the ball pressing into the material of the ring. *** The seal of Saunders depends primarily on the contact between the ball and the body

of the sealing ring, and the flange or lip sealingly contacts the ball on the upstream side when the fluid pressure increases. 225 U.S.P.Q. at 258.

Relying on *Jamesbury*, the ITC said, "Anticipation requires looking at a reference, and comparing the disclosure of the reference with the claims of the patent in suit. A claimed device is anticipated if a single prior art reference discloses all the elements of the claimed invention as arranged in the claim." *In re Certain Floppy Disk Drives and Components Thereof*, 227 U.S.P.Q. 982, 985 (U.S. ITC 1985).

All these rejected claims call for comparing the frequency of the desired received signal to a threshold frequency. The reference does not disclose comparing the frequency of the desired received signal to a threshold frequency. The statement that the center frequency detector 30 performs the step of comparing frequency of the received signal to a predetermined frequency threshold is incorrect. Center frequency detector 30 is connected to audio detector 20.

The reference discloses, "The frequency discriminator (audio detector 20 itself in this embodiment of the invention) is responsive to the intermediate frequency signal for developing an output signal which has a DC component which vary systematically in accordance with (e.g. is directly proportional to) the deviation of the intermediate frequency from the predetermined frequency [the IF amplifier center frequency typically 10.7 MHz, column 3, lines 38-42]." Column 3, lines 50-57.

The reference discloses:

In accordance with one aspect of the invention, detecting means in the form of center frequency detector 30 are provided in the embodiment of the invention illustrated in FIG. 1. Detector 30 is coupled to the audio detector 20 and is responsive to the DC signal component developed by audio detector 20 for developing a gating signal. The gating signal has a first value when the DC component is between preselected upper and lower threshold values and the gating signal has a second value when the DC component is not between the upper and lower threshold values. This gating signal may therefore be used to enable and disable the audio amplifier 25, for example, either directly (as shown in FIG. 1) or by means of switching circuit 23 (as shown in FIG. 2). By selecting the upper and lower threshold values to be very close to

each other, in accordance with the features of the invention, the system of the invention may thus be set to enable audio signal reproduction only when the receiver is tuned to (or very close to) the center frequency of the received signal. Column 4, lines 49-68.

Manifestly, the reference does not disclose "comparing the frequency of the desired received signal to a threshold frequency" as called for by all the rejected claims.

Nor does the reference disclose "tuning the oscillator of the receiver to a frequency within the range of reception frequencies based on the threshold frequency, that is less and more than the received frequency when the received frequency is above and below the threshold frequency, respectively."

While the standard FM reception band is from 88 to 108 MHz, there is no disclosure that local oscillator 17 has a frequency always within 88 - 108 MHz, let alone that is less and more than the received frequency in that band when the received frequency is above and below the undisclosed threshold frequency.

As to the additional basis for rejecting claim 4, the reference does not disclose any information on tuning local oscillator 17, and the contention that the reference "inherently performs" the subject matter of this claim is not supported in the reference.

As to the additional rejection of claim 5 regarding "inherently a design choice," that is a conclusion, not a reason for supporting a rejection.

In *In re Garrett*, 33 PTCJ 43 (BPA&I, September 30, 1986) the Board criticized the Examiner's statement that the proposed modification would have been "an obvious matter of engineering design choice" as a conclusion, not a reason, in reversing the section 103 rejection.

Regarding the additional grounds for rejecting claims 6 and 7, the reference does not disclose anything relating to first and second offsets being less than or equal to $(F_{\text{high}} - F_{\text{low}})/2$, nor that the first and second frequency offsets are equal to an intermediate frequency of the receiver nor that the range of frequencies is 2400 MHz to 2485 MHz inclusive as called for by claim 9. The reference in the office action to 2400 KHz to 2485 KHz is not understood.

Accordingly, withdrawal of the rejection of claims 1 and 4-9 as anticipated by the reference is respectfully requested. If this ground of rejection is repeated, the Examiner is

respectfully requested to quote verbatim the language in the reference regarded as corresponding to each element in each of these rejected claims.

5. Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Imazeki. Regarding claim 2, the reference is said to teach that in applications of the invention utilizing frequency-synthesizer circuitry where the tuning frequency is adjusted in discrete increments, the range of two selected upper and lower threshold values as discussed in claim 1 should not be made narrower than the increments in order to avoid the possibility of skipping over the desired set of frequencies. Although the reference does not disclose explicitly converting the desired received signal frequency into a discrete value (index value as claimed), it is said it would have been obvious to one of ordinary skill in the art that such step is necessary in the foregoing applications where the tuning frequency is adjusted in discrete increments.

Regarding claim 3 as said to be recited in claim 2, in applications of the invention utilizing frequency-synthesizer circuitry where the tuning frequency is adjusted to discrete increments, it is said the threshold frequency obviously represents a discrete value which corresponds to the center frequency of one channel within said range of reception frequencies.

This ground of rejection is respectfully traversed.

"The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

Claims 2 and 3 are dependent upon and include all the limitations of claim 1, which cannot be anticipated by the reference. Nor does the reference remotely suggest the desirability of modifying what is there disclosed to meet the terms of claims 2 or 3. Accordingly, withdrawal of the rejection of claims 2 and 3 as unpatentable over the reference is respectfully requested.

If this ground of rejection is repeated, the Examiner is respectfully requested to quote verbatim the language in the reference corresponding to each element in claims 2 and 3 and quote verbatim the language in the reference regarded as suggesting the desirability of modifying what is disclosed in the reference to meet the terms of claims 2 and 3.

6. Claims 10-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Imazeki as a primary reference in view of Hagiwara as a secondary reference.

Regarding claims 10 and 11 as said to be illustrated in FIG. 2, a radio-frequency receiver includes an antenna 12 for receiving an RF signal within a predetermined frequency range, a local oscillator 17, a mixer and filter 16 coupled between the RF amplifier 14 and the local oscillator 17, and an IF amplifier 18 to sequentially and selectively tune the receiver to the predetermined frequencies and produce a corresponding IF signal. The frequency control means in the primary reference is said to be provided in the form of FM audio detector 20, center-frequency detector 20 [sic], a switching circuit 23 and a scanner circuitry 40. The switching circuit 23 coupled to the scanner circuitry 40 is said to be responsive to the gating signal from the center-frequency detector 20 [sic] for stopping the scanning only when the control signal has a value that corresponds to the receiver being tuned close to the predetermined frequency. From that view, it is said the tuned frequency differs from the frequency of desired signal by an intermediate frequency. It is said obviously, the predetermined frequencies are from a source of signals representative of frequencies of the desired signals. However, the primary reference is said to not show explicitly the source of signals coupled to the frequency control means. Nevertheless, the secondary reference is said to disclose the source of desired signals implemented as a channel selection input control circuit 8 in a television receiver said to be shown in FIG. 1. It is said clearly, the tuning voltage control circuit 10 represents the frequency control means that is coupled to a local oscillator 5 and a channel selection input control circuit 8 to provide a frequency control signal to the local oscillator 5. As said to be notoriously known in the art, the channel selection circuitry is always implemented in a radio-frequency tuning receiver, therefore, it is said combining both teachings would have been obvious to one skilled in the art.

Regarding claim 12, it is said to be well known in the art, local oscillator is used in conjunction with a phase-locked loop and both could be easily implemented as a single unit.

Regarding claim 13, in addition to the rejection argument of claim 11, the primary reference is said to give two examples of the invention wherein the predetermined frequencies

are 10.7 MHz for FM receiver and 455 KHz that falls into AM frequency range. Hence, the primary reference receiver it is said could be easily configured to receive signals in the range of 2400 Hz to 2485 Hz. This ground of rejection is respectfully traversed.

"The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

"Although the Commissioner suggests that [the structure in the primary prior art reference] could readily be modified to form the [claimed] structure, '[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.'" *In re Laskowski*, 10 U.S.P.Q. 2d 1397, 1398 (Fed. Cir. 1989).

"The claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984).

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined *only* if there is some suggestion or incentive to do so." *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984) (emphasis in original, footnotes omitted).

"The critical inquiry is whether 'there is something in the prior art as a whole *to suggest* the desirability, and thus the obviousness, of making the combination. [citing *Lindemann* with emphasis added.]" *Fromson v. Advance Offset Plate, Inc.*, 225 U.S.P.Q. 26, 31 (Fed. Cir. 1985).

As the Federal Circuit Court of Appeals said in *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999):

Close adherence to this methodology is especially important of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.'

And in *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000), the Court said:

[I]dentification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *See id.* [*Dembiczak*]. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. *See In re Dance*, 160 F.3d 1339, 1343, 48 U.S.P.Q.2d 1635, 1637 (Fed. Cir. 1998), *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. *See B. F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1582, 37 U.S.P.Q.2d 1314, 1318 (Fed. Cir. 1996).

Claims 10-13 call for the frequency controller being coupled to the local oscillator and the signal input for providing a frequency control signal to the local oscillator that always sets the frequency of the local oscillator to a frequency that differs from the frequency of the desired signal by the intermediate frequency and is within the predetermined frequency range. Neither the primary reference nor the secondary reference discloses this limitation. It is therefore impossible to combine the primary and secondary references to meet the terms of claims 10-13.

"Moreover, we observe that even if these references were combined in the manner proposed by the examiner, that which is set forth in appellant's claims . . . would not result." *Ex parte Bogar*, slip op. p.7 (BPA&I Appeal No. 87-2462, October 27, 1989). "Even if we were to agree with the examiner that it would have been obvious to combine the reference teachings in the manner proposed, the resulting package still would not comprise zipper closure material that terminates short of the end of the one edge of the product containing area, as now claimed." *Ex parte Schwarz*, slip op. p.5 (BPA&I Appeal No. 92-2629 October 28, 1992). "Although we find nothing before us indicating why it would be desired to combine the references in the manner urged by the examiner, it is clear to us that such a modification by itself would not result in that which is set forth in the claims." *Ex Parte Kusko*, 215 U.S.P.Q. 972, 974 (BPA&I 1981).

That it is impossible to combine the references to meet the terms of claims 10-13 is reason enough for withdrawing the rejection of these claims on this combination of references.

The reference to 2440 Hz to 2485 Hz in rejecting claim 13 is not understood.

7. Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kennedy. The reference is said to disclose in FIG. 4 an FM scan tuning receiver that includes an antenna 40 for receiving a FM signal, a FM tuner providing a local oscillator 61 to the microprocessor controlled PLL scan tuning circuit 57, which is said to provide tuning voltage 60 to the FM tuner 42. It is said obviously, the FM tuner 42 includes a local oscillator (not shown in the picture) and a mixer for producing an IF signal. As well known in the art, FM frequencies are said to be known to be from 88 MHz to 108 MHz. The FM scan tuning receiver is said to further include an IF level detector 47, level detector and frequency window detector 48, and quality detector circuit 50. The reference is said to not explicitly state a frequency controller, however from an engineering standpoint, it is said it would have been apparent to one skilled in the art that the frequency controller means is in the form of IF level detector 47, level detector and frequency window detector 48, quality detector circuit 50, and the microprocessor controlled PLL scan tuning circuit 57. It is said the foregoing components could be easily implemented on the same IC circuit. It is said the local oscillator obviously sets the frequency to a frequency that differs from the frequency of the received signal by an IF frequency due to the mixer. It is said the reference does not show a source of signal; however, the reference is said to teach that circuit 57 receives a start signal 58 in response to operator actuation of a scan tuning operation. Hence, it is said it would have been obvious to one of ordinary skill in the art that a channel selection means is employed in the FM receiver for selecting a channel frequency to start the scanning process. This ground of rejection is respectfully traversed.

Claim 14 calls for a frequency controller coupled to the local oscillator and a signal path for providing a frequency control signal to the local oscillator that only sets the frequency of the local oscillator to a frequency that differs from that of a received signal within the predetermined frequency range by the intermediate frequency and is within the predetermined frequency range. The reference fails to disclose this limitation or suggest the desirability of modifying what is disclosed there to meet the terms of claim 14. Accordingly, withdrawal of the rejection of claim 14 as unpatentable over the reference is respectfully requested.

If this ground of rejection is repeated, the Examiner is respectfully requested to quote verbatim the language in the reference regarded as corresponding to each element in claim 14 and quote verbatim the language in the reference regarded as suggesting the desirability of modifying what is there disclosed to meet the terms of claim 14.

8. Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kennedy as a primary reference as said to be applied to claim 14 and further in view of Imazeki as a secondary reference. Regarding claim 15, the primary reference is said to not disclose adding first frequency offset value and second frequency offset value when the received frequency is greater than or less than a predetermined frequency threshold in claim 14. However, the secondary reference is said to disclose a similar scanning FM receiver that is tuned close to the center frequency of a desired frequency when the received frequency is lower or above a frequency threshold. As said to be known in the art, the scanning process is said to increase or decrease the frequency by a frequency interval that is said to be equivalent to adding or subtracting an offset value. The secondary reference is said to further propose employment of a programmable frequency synthesizer circuit for the local oscillator for tuning the receiver to desired frequencies. Hence, it is said to be reasonably said and it would have been obvious that a microprocessor means could be implemented in the secondary reference receiver for programming the programmable frequency synthesizer circuit. Since the primary and secondary reference teachings are said to be very similar (e.g. scanning FM receiver) although the implementation is slightly different, therefore it is said combining both teachings would be apparent to one of ordinary skill in the art. This ground of rejection is respectfully traversed.

Claim 15 is dependent upon and includes all the limitations of claim 14 absent from the primary reference as set forth above. Therefore, it is impossible to combine the primary and secondary references to meet the terms of claim 15. And nothing in the references suggests the desirability of combining what is there disclosed to meet the terms of claim 15. Accordingly, withdrawal of the rejection of claim 15 as unpatentable over the primary and secondary references is respectfully requested. If this ground of rejection is repeated, the Examiner is respectfully requested to quote verbatim the language in each reference regarded as

corresponding to an element in claim 15, and quote verbatim the language in the references regarded as suggesting the desirability of combining what is there disclosed to meet the terms of claim 15.

9. For the first time original claim 4 stands rejected under 35 U.S.C. § 112, first paragraph, as based on a disclosure, which is not enabling. It is said the offset value and predetermined frequency range are critical or are essential to the practice of the invention, but not included in the claims is not enabled by the disclosure, citing *In re Mayhew*, 188 U.S.P.Q. 356 (C.C.P.A. 1976). It is said that without properly defining claim frequency offsets and frequency ranges, there are cases where the received frequency that is added or subtracted by offset values will lie outside the predetermined range of reception frequency.

This ground of rejection is respectfully traversed.

Claim 4 calls for tuning the oscillator of the receiver to a frequency within the range of reception frequencies based on the threshold frequency, that is less and more than the received frequency when the received frequency is above and below the threshold frequency, respectively. The claim requires tuning the oscillator of the receiver to a frequency within the range of reception frequencies. The contention that the disclosure is not enabling for any claim was never raised in any prior rejection and is equally inappropriate at this time.

The reliance on *Mayhew* is inapposite. In fact, that case supports that claim 4 is enabling, for the court reversed a rejection of claims based on omitting temperature ranges. 188 U.S.P.Q. at 359.

Accordingly, withdrawal of the rejection of claim 4 as based on a nonenabling disclosure is respectfully requested.

10.-12. Claims 11-13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject which applicant regards as the invention. Claims 11-14 have been amended without narrowing to provide antecedent support.

13. The drawings are objected to for failing to disclose the microprocessor of claim 14. FIG. 2 illustrates the microprocessor of claim 14.

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14. The references cited, but not applied, have been examined and are submitted to be incapable of anticipating, suggesting or making obvious the subject matter of the invention disclosed and claimed in this application.

In view of the foregoing amendments, authorities, remarks and the inability of the prior art to anticipate, suggest or make obvious the subject matter as a whole of the invention disclosed and claimed in this application, all the claims are submitted to be in a condition for allowance, and notice thereof is respectfully requested. Should the Examiner believe the application is not in a condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at (617) 521-7014 to discuss what additional steps the Examiner believes are necessary to place the application in a condition for allowance.

Enclosed is a \$110.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050, Order No. 02103-349001.

Respectfully submitted,

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